

REMARKS

This Amendment is submitted in response to the Office Action dated June 17, 2004, having a shortened statutory period set to expire September 17, 2004. Claims 1-6, 8-9, and 11-18 have been amended herein, claims 7, 10, and 19 have been canceled, and claims 20-27 have been added.

Amendments to the Specification

Two paragraphs have been amended herein to correct minor wording problems. No new matter has been added.

Claim Rejections Under 35 U.S.C. § 112

Claims 6 and 8-19 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter Applicant regards as the invention. Claims 10 and 19 have been canceled rendering their disposition moot. To address the correctly cited lack of antecedent basis problems the following amendments have been made: claims 6 has been amended to remove “said protocol interface macro;” claim 8 has been amended to remove “said plurality of devices;” claim 15 has been amended to replace “said vibration signal table” with “said message table,” which has antecedent support from claim 14; claim 14 has been amended to now depend from claim 12, which depends from claim 9, which recites “a protocol interface macro,” thus providing antecedent basis for “said protocol interface macro” as used in claim 16; and claim 18 has been amended to remove “said host device.”

Applicant appreciates the Examiner’s assistance in ensuring correct claim construction.

Prior Art Claim Rejections

Claims 1-17 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Gerasimov et al. publication “Things That Talk” (hereinafter *Gerasimov*). Claims 18 and 19 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,987,011, issued to Toh (herein after *Toh*) in view of *Gerasimov*.

Regarding the grounds for rejecting independent claim 1, it is agreed that *Gerasimov* discloses the concept of using a wireless sound wave medium to communicate between devices. It is further agreed that *Gerasimov* discloses various encoding schemes (explained in ‘Research

Results’ and in subsections ‘Phase-shift-keying and amplitude modulation’). Applicant disagrees, however, that such signal transmission encoding schemes are equivalent to a “network protocol” as used in the claims and specification. Applicant’s claimed “network protocol” feature relates to the higher-level message receipt/processing/discarding/forwarding mechanism that is unrelated to the particular manner in which a given data packet or frame is encoded (transmission “language”) or decoded (interpretation of “language”). Nowhere does *Gerasimov* appear to disclose use of a network protocol (e.g. logistical rules specifying manner, timing and other logistical rules governing traffic handling in a network).

Continuing with the grounds for rejecting independent claim 1, it is agreed that *Gerasimov* discloses decoding and encoding functions (‘Equation 7’ and ‘Equation 8’) that may be equivalent to the claimed “decoding a message-specific semantic of an incoming vibration wave message and encoding a message-specific semantic of an outgoing vibration wave message.”

While sound-driven inter-device communication is known in the art, Applicant’s proposed invention is directed to unique and novel technique and structure whereby generally dissimilar networked devices may be uniformly equipped with a bifurcated communication interface comprising a universally identical transceiver or “base media interface” that is communicatively coupled to each of the networked host devices, and further includes a device-specific logic that is accessed by the base media interface in a specialized message semantic processing step. Independent claim 1 has been amended to more clearly characterize Applicant’s proposed invention. Specifically, amended claim 1 now recites a method for conducting network communications comprising:

“transducing a received sound-encoded signal into an electronically-encoded signal;”

“processing the transduced signal in accordance with a network distribution protocol;”

“decoding a message semantic of the transduced signal, said decoding comprising translating the message semantic in accordance with operating characteristics native to said host apparatus;” and

“transmitting an outgoing sound-encoded signal from said host apparatus in accordance with said network distribution protocol processing.”

Claim 2 (and similarly dependent claim 9) has been amended to recite, in part, “wherein said transmitting an outgoing sound-encoded signal is preceded by encoding said outgoing sound-encoded signal in accordance with said translated message semantic.”

Ample support for the foregoing amendments to claims 1 and 2 are provided in Applicant’s specification at page 14, lines 1-8 (explaining device-specific decoding of the message semantic as relevant to the host device resulting in a useful division between host-specific semantic processing data and network protocol processing thus enabling modular adaptability of a network of often dissimilar host devices); page 14, lines 10-20 (disclosing the translation of the received message semantic in accordance with host-specific instructions).

As explained throughout Applicant’s specification, the foregoing message semantic translation step enables a two-tier semantic which, as explained in Applicant’s specification on page 19, lines 11-14, is both message-dependent (an audible alarm indicating “fire” from a smoke detector, for example) and host apparatus-dependent (host-specific translation for stove versus translation for a lamp needed to illuminate during a fire). Applicant is aware that conventional network messaging may often employ a two-part packet processing method whereby control and message distribution data is processed prior to processing the substantive message semantic. However, Applicant is unaware of any such bifurcated message processing in which the message semantic is translated in accordance with native host device operating characteristics (i.e. inherent structure or operational capabilities of the host apparatus versus applications or features cooperatively operating among the networked devices.) For example, *Gerasimov’s* Battleship demonstration clearly involves message semantic processing relating to an application installed on each PC wherein the message semantics relate to the shared application installed on each PC and are therefore simply decoded and processed by the PC without the need for further semantic translation for conforming to host apparatus (i.e. PC) operating characteristics.

Independent claims 8 and 18 have been similarly amended, with claim 8 now reciting a communication interface comprising, “a transceiver having a processor for processing incoming and outgoing sound-encoded messages in accordance with a network protocol, said transceiver including an input transducer that transduces a received sound-encoded signal into an electronically-encoded signal;” and “a device-specific logic in communication with said

transceiver for decoding a message semantic of said transduced signal, said decoding comprising translating the message semantic in accordance with operating characteristics native to said host apparatus.”

Applicant submits that since nothing in *Gerasimov* discloses or suggests a host-specific message semantic translation, claims 1, 8 and all claims depending therefrom are patentably distinct from the disclosure of *Gerasimov*.

Regarding the grounds for rejecting claims 18 and 19 as unpatentable over *Toh* in view of *Gerasimov*, it is agreed that *Toh* teaches an RF computer network (Fig. 5A), wherein a mobile host processes and relays packets, and checks seen tables to determine whether a given packet has been received. Applicant disagrees, however, that *Gerasimov* discloses any data structure or function relating in any way to network-specific discernment of a given signal such as set forth in Applicant’s previously recited step of “decoding said incoming electronic signal to determine whether said incoming vibration signal is a network message.” As explained under the “Phase-shift-keying and amplitude modulation” subsection, *Gerasimov*’s “hail frame” is a packet decoding synchronization tool (designates the beginning of each packet) and does not identify or designate the message as belonging to a network.

Independent claim 18 has been amended to more clearly characterize Applicant’s proposed invention in a manner largely consistent with the foregoing described amendments to claims 1 and 8. In addition to a transducing step, the method recited by claim 18 includes, in part a step of “responsive to determining that said network message has not been previously received by said communication interface, decoding a message semantic of said electronically-encoded signal, said decoding comprising translating the message semantic in accordance with operating characteristics native to said host apparatus.”

Since nothing in *Gerasimov* or *Toh*, individually or in combination disclose or suggest a communication interface in which networked devices communicate a first level message semantic carried by a sound-encoded signal, and include a step of “translating the message semantic in accordance with operating characteristics native to said host apparatus,” it follows that claims 1, 8, 18 and all claims depending therefrom are patentably distinct from these as well as all other prior art references known to Applicants. A Notice of Allowance is therefore respectfully requested for the pending claims.

Applicant invites the Examiner to contact the undersigned attorney of record at (512) 343-6116 if such would further or expedite the prosecution of the present Application.

Respectfully submitted,



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